

ABSTRACT OF THE DISCLOSURE

A process for fractionating and treating of a full range naphtha stream. The full boiling range naphtha stream is first split into a light boiling range naphtha, an intermediate boiling range naphtha and a heavy boiling range naphtha. The bottoms are subjected to hydrodesulfurization and the effluent combined with the intermediate boiling range naphtha containing thiophene and thiophene boiling range mercaptans and subjected to a second hydrodesulfurization. The effluent from the polishing reactor may be combined with the light boiling range naphtha to produce a new full boiling range naphtha containing substantially less total sulfur than the original feed. The mercaptans in the light naphtha may be removed by thioetherification prior to splitting or by wet caustic wash afterwards. The object being to meet higher standards for sulfur removal, by treating the components of the naphtha feed with the process that preserves the olefinic while most expediently removing the sulfur compounds.